CLAIMS

1. A method for estimating a delay of a signal received at a mobile station (MS) from a specific network element (BS_1,BS_2) of a network for determining the location of said mobile station (MS), said method comprising estimating said delay within a search window, which search window is determined based on location information available for said specific network element (BS_1,BS_2) and on a known distance of said mobile station (MS) to at least one other network element (BS_0,BS_1).

2. A method according to claim 1, wherein said at least one other network element comprises a serving network element (BS_0) serving a server cell (20) in which said mobile station (MS) is currently located, and wherein the maximum distance of a boarder of said server cell (20) to said serving network element (BS_0) defines the known distance of said mobile station (MS) to said serving network element (BS_0).

3. A method according to claim 1, wherein said at least one other network element comprises a serving network element (BS_0) serving a server cell in which said mobile station (MS) is currently located, and wherein said known distance is a distance (D_0) of said mobile station (MS) to said serving network element (BS_0) which was determined based on delay measurements on signals from said serving network element (BS_0).

4. A method according to claim 1, wherein said at least one other network element comprises at least two network elements (BS_0,BS_1), to which a respective distance was

already determined based on delay measurements on signals from said at least two network elements (BS_0,BS_1).

5. A method according to claim 4, wherein said search window is selected such that it covers intersection points of all circles around said at least two network elements (BS_0,BS_1) with a radius of the respectively determined distance.

6. A method according to claim 5, wherein said search window is subdivided into at least two sub-windows, each covering a respective intersection point.

7. A method according to claim 1, wherein a respective search window is determined for at least two specific network elements (BS_1,BS_2) in the order of their distance to said mobile station (MS), beginning with the network element (BS_1) which is the closest to said mobile station (MS).

8. A method according to claim 1, wherein a search window is determined for at least two specific network elements in the order of the signal strength at said mobile station of signals transmitted by said network elements, beginning with the network element providing the strongest signal.

9. A method according to claim 1, wherein the covering range of said specific network element (BS_1,BS_2) is take into account in addition for limiting said search window.

10. A method according to claim 1, further comprising determining a threshold value based on the size of a determined search window, which threshold value defines the minimum signal strength of signals received at said mobile station for which a delay is estimated.

11. A mobile station (MS) comprising means for receiving signals from a plurality of network elements (BS_0,BS_1,BS_2) of a network for determining the location of said mobile station (MS), means for determining a search window according to claim 1, and means for determining a delay of received signals using a respectively determined search window.

12. A mobile station (MS) comprising means for receiving signals from a plurality of network elements (BS_0,BS_1,BS_2) of a network for determining the location of said mobile station (MS) and an indication of a search window for each of said network elements (BS_0,BS_1,BS_2), and means for determining a delay of received signals using a respective search window.

13. A network element (BS_0) for a network comprising means for transmitting signals for determining the location of a mobile station (MS) to said mobile station (MS), means for determining a search window for at least one further network element (BS_1,BS_2) of said network according to claim 1, and means for transmitting information on said determined search window to said mobile station (MS).

14. A network element (BS_0) for a network comprising means for transmitting signals for determining the location of a mobile station (MS) to said mobile station (MS) and

means for retrieving and transmitting location information about at least one further network element (BS_1,BS_2) to said mobile station (MS).

15. A communication system comprising:
- at least two network elements (BS_0,BS_1) for transmitting signals for determining the location of a mobile station (MS);
- at least one mobile station (MS) with means for determining a delay of received signals based on a search window; and
- means for determining a search window according to claim 1.

16. A communication system according to claim 15, wherein said means for determining a search window are comprised in at least one of said at least two network elements (BS_0,BS_1).

17. A communication system according to claim 15, wherein said means for determining a search window are comprised in said at least one mobile station (MS).